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Show Me Agriculture

TEACHER PAGE

USING **SHOW ME AGRICULTURE**

The Missouri Department of Agriculture is pleased to present this issue of **Show Me Agriculture**. This publication is designed for use in fourth grade classes in the state of Missouri. **Show Me Agriculture** provides up-to-date insights about Missouri topics in agriculture. This issue focuses on Missouri's fiber industries, particularly cotton and wool. **Show Me Agriculture** is prepared and classroom tested by Missouri educators and is published quarterly. We hope that you will find this issue both useful and unique.

Space Age Jeans, Page 1. Goals 1.2, 1.5, 1.6, 1.8, 1.10, 2.3, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 3.8, 4.1, 4.7, and 4.8; CA 3; SCI 8; SS 2, 4, 5; HPE 6

Missouri is the tenth ranking state in cotton production. The purpose of the story about Missouri cotton is to impress on students the technologies used in agriculture. Students often think that agriculture is just farmers on tractors. Although farmers and tractors are important, there are countless other opportunities for careers in agriculture. Most students are not aware that satellites might have anything to do with agriculture. Teachers may wish to create a word list / syllabus to help students with terms that might be new to them. Terms may include planting, spraying, pesticide, fertilizer, harvesting, boll, satellite and GPS. For a science unit, GPS can serve as a lead-in to latitude and longitude. A map reading exercise would complement this topic.

Boll Weevil, Page 2. Goals 1.2, 1.5, 1.8, 1.10, 2.3, 2.7, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 3.8, 4.1, and 4.7; CA 6; SCI 8; SS 4; HPE 6

Students will realize the problems that farmers face with insects. You may want to discuss the difficulties in eradicating an insect pest.

A Bale of Cotton, Page 3. Goals 1.2, 1.5, 1.8, 1.10, 2.3, 2.7, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 3.8, 4.1, and 4.7; CA 6; MA 1, 2; SCI 8; HPE 6

Here are the answers to the exercise

1. $500 \text{ pounds} \times \$.60 = \300.00 per bale. Note – by definition, a bale of wool weighs 480 pounds. The figure was rounded to 500 pounds for calculation purposes.
2. $500 \text{ pounds of cotton in a bale} / 250 \text{ pairs of jeans} = 2 \text{ pounds per pair of jeans.}$
3. $2 \text{ pounds of cotton per pair of jeans} \times \$0.60 \text{ per pound} = \1.20
4. Students can check newspapers and stores to find jeans priced from \$15 - \$50 per pair.
5. If a pair of new jeans costs \$20, and the farmer gets \$1.20 for the cotton in each pair, the difference is \$18.80.
6. For this discussion question, students will need to think about the route that cotton takes to get from the farm to the store.

Sheep and Wool, Page 4. Goals 1.2, 1.5, 1.6, 1.8, 1.10, 2.3, 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 3.8, 4.1, and 4.7; CA 3; MA 1, 2; SCI 8; SS 4; HPE 6

Missouri has about 70,000 sheep that are on about 1,700 farms. Some sheep are raised mainly for meat, some mainly for wool, and some for both. To help your students better understand wool, you might invite a spinner or weaver to your classroom. All parts of Missouri have spinning and weaving guilds whose members are typically happy to visit with students about their products. A field trip to a sheep farm might be an option for some classes.

Supply and Demand, Page 5-6 Goals 1,2, 1,5, 1,6, 1,8, 1,10, 2,3, 3,1, 3,2, 3,3, 3,5, 3,6, 3,7, 3,8, 4,1, and 4,7; CA 3, 6; MA 1, 2, 6; SCI 8; SS 4; HPE 6

One of the important economic concepts that fourth graders may begin to understand is supply and demand. The following comments may help with the discussion questions:

1. The reduced demand for wool on the world market presents an excellent opportunity to discuss reduced demand during a time of plentiful supply.
2. If more people chose to wear wool and the supply of wool remained the same, students should expect the price to rise.
3. Students may use their critical thinking skills to propose solutions to the low wool price problem. They may want to consider why people wear more or less wool (attitudes about wool – it's itchy, hot, etc.). Be sure that students are aware that not all wool is the same. Some is too coarse to wear so it is made into carpets or blankets. However, other wools are soft. Students may also consider how Americans dress more casually. For example, how many of the boys in the class have a real suit, let alone a real suit made of wool? Students may also suggest that the amount of wool produced be reduced, i.e. fewer sheep. However, students should realize that most Missouri sheep are not raised for wool – most are raised for meat. Meat from older sheep is called mutton. Little mutton is available in the U.S. due to mutton's stronger flavor. Lamb is the term used for meat from young sheep. Because lamb is so much milder than mutton, American consumers prefer lamb. Therefore, very little mutton is consumed in the U.S.

Shearing Calculations, Page 7 Goals 1,2, 1,5, 1,8, 1,10, 2,3, 2,7, 3,1, 3,2, 3,3, 3,5, 3,6, 3,7, 3,8, 4,1, and 4,7; CA 3, 6; MA 1, 2, 6; SCI 8; SS 4

1. 100 sheep X 7 pounds of wool = 700 pounds of wool
2. 700 pounds of wool / 200 pounds of wool per bag = 3.5
(4 bags are actually needed since the farmer can't buy a partial bag.)
3. 60 minutes in an hour / 3 minutes per sheep = 20 sheep sheared per hour
4. 20 sheep per hour X 8 hours = 160 sheep per day
5. 160 sheep X \$2.00 per sheep = \$320.00
6. 800 sheep / 160 sheep per day = 5 days
7. 100 + 90 + 110 + 120 + 80 = 500 sheep sheared this week
8. 500 sheep / 5 days = 100 sheep averaged per day

Fiber Review Crossword Puzzle, Page 8. Goals 1,10, 2,3, 3,1 and 3,5; CA 1; SCI 8; SS 4

Across

3. The part of a cotton plant that contains the cotton boll.
5. An insect that attacks cotton plants is the boll weevil.
9. GPS stands for Global Positioning System.
11. Angora goats produce this fiber. Mohair
12. Denim jeans are made from this fiber. Cotton
13. When a farmer removes the wool from a sheep. Shear

Down

1. An example of a synthetic fiber. Polyester
2. Linen comes from this plant. Flax
4. 500 pounds of cotton. Bale
6. To totally get rid of an insect. Eradicate
7. What does an entomologist study? Insects
8. Wool prices depend on supply and demand.
10. Another name for silkworm caterpillars. Larvae

Call or write to request the national Ag in the Classroom newsletter "NOTES." It's a great resource to find out what is going on with integrating agriculture into the classroom in all 50 states!

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Additional Resources:

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Call or write for more information on:
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Minigrant program
Various resources



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